

**OBSERVATIONS**  
ON THE  
**PREPARATORY EDUCATION**

OF  
CANDIDATES FOR THE DEGREE  
OF

**Doctor of Medicine,**  
IN THE SCOTTISH UNIVERSITIES;

HUMBLY SUBMITTED TO THE CONSIDERATION OF  
HIS MAJESTY'S COMMISSIONERS  
FOR VISITING THE UNIVERSITIES AND COLLEGES  
OF SCOTLAND.

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MY LORDS AND GENTLEMEN,

HAVING been informed that one of the very important investigations in which you are at present engaged, relates to the qualifications of those who receive the degree of Doctor of Medicine in the Scottish Universities, I take the liberty to send you a copy of a short paper entitled “Hints,” &c. upon that subject, which, in the course of the summer of 1824, I addressed to the Patrons and Professors of the University of Edinburgh. The principal object of that paper was to recommend a stricter attention than had previously been given in this University to the literary and scientific qualifications of Candidates for Medical Degrees; and I have the satisfaction to know, that it expresses opinions with regard to these qualifications, very generally entertained by the better informed part of the Medical Profession in Scotland.

Although no improvement in regard to preparatory education was made in the Medical Curriculum subsequently framed for the University of Edinburgh, it is agreeable to perceive, that a due attention has been shewn to this subject, in the Regulations relative to Medical Degrees which

have been lately enacted by the Universities of St Andrew's and Aberdeen.

The differences in the conditions on which Medical Degrees are at present granted by the different Universities of Scotland, is a circumstance which cannot fail to attract your notice ; and the public have reason to hope, that one of the great benefits to be derived from the very important commission with which you have been entrusted, will be the adoption of a more uniform system of Medical Education throughout the Scottish Universities.

It is only under a system in which an equal extent of qualifications for a Medical Degree shall be required by each of the Universities, that that fair and generous competition between these Institutions can be looked for, which it is so important for the interests of the public should be maintained.

Indeed, it may be doubted whether one of the greatest obstacles which has hitherto retarded the introduction of improvements in the courses of study required for obtaining a Medical Degree from the different Universities of Scotland, may not have arisen partly from want of cordial co-operation among these Institutions in the advancement of the important objects for which they have been founded, and partly from the apprehension which each University has respectively entertained, that, to raise the standard of qualifications required of its Graduates, might, in

operating prejudicially to its own interests, tend to promote those of its rivals.

In the slight sketch which I have given in the Hints of the Course of Education suitable for young Men destined for the Medical Profession, I have viewed it as Preparatory, and as strictly Professional.

I have endeavoured to shew, that the preparatory education ought to consist in the acquisition of a competent knowledge of the Latin and Greek Languages, of the elementary parts of Mathematics and Natural Philosophy, and of Logic and Moral Philosophy. That I have not overrated the advantages that would result to Students of Medicine from the possession of a knowledge of these preliminary branches of education, will, I believe, be readily acknowledged by every practitioner of experience ; and it gives me much pleasure to be able to confirm my opinions on this subject, 1st, By laying before you those of three individuals of this place, who, like myself, took an interest in the improvement of the medical Curriculum of the Edinburgh University, and who from their talents, acquirements, and opportunities of observation, must be considered as very competent judges ; 2dly, By a reference to writings in which the subject of the preparatory education of medical men is professedly discussed ; and, 3dly, By alluding to the provisions made for this education in the statutes of different Universities on the Continent of Europe.

Dr Peter Reid, in a "Letter to the Patrons of the University of Edinburgh, on the Reform of Medical Education, necessary to give the public an adequate security for well educated men," observes \* :

"The first and most serious defect of medical education at this place, arises from those entering on the profession not being necessarily required to have had the advantages of a liberal education ; no test of this is exacted, and a lad may therefore enter on his medical career in a pure state of nature, with his mind a perfect *tabula rasa*. Why the preliminary discipline of a liberal education should not be enforced in Medicine, as well as in Law or Divinity, is altogether unaccountable. There is no profession in which it is more necessary to apply the canons of sound logic, or to acquire the habits of accurate induction ; none in which error is more pernicious, and none exposed to more sources of fallacy. Those exercises, then, which open the understanding, and refine the taste,—which give freedom, range, and activity to the mind, form a necessary introduction to the study of medicine as a liberal science. It is the rectitude of judgment and sense of propriety, which this education has such a tendency to cultivate, that gives the pub-

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\* "It may not be improper to state," says Dr R., "that I have had opportunities which can fall to the lot of few, of appreciating the effects of medical education, having been employed for many years in teaching the different departments of medicine to advanced students of the most liberal class."



lie the very best security against all kinds of quackery, vulgar pretensions, and low arts."

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"Now, I conceive that there is only one remedy for this great evil, and that is, by insisting that every young man, before he is admitted to enrol his name as a Student of Medicine at this University, shall give satisfactory evidence of his having had the advantages of a liberal education—shall shew, by actual examination, that he has a competent knowledge of the classics,—and adduce proof of his having attended a course of Mathematics, Logic, and Moral Philosophy. By this one step, you will do more for the medical character, and give the public a better security for well bred men, than if you clogged education with a dozen new Professorships, and kept the student for twenty years in the trammels of the physical sciences."

Dr Abercrombie, in a letter to Professor Russell, (dated 12th November 1824) remarks, "In making a complete revision of the Curriculum of Medical Study, it appears to me, that the improvement which is chiefly wanted, and by which the Senatus may contribute in a most essential manner to raise the character of the medical profession, is, some provision for securing a liberal and extensive previous education in Literature and Science: such an education as shall enable the student to commence his medical studies, with a mind well stored with scientific knowledge, and, in particular, with a mind well trained to habits of correct reason-

ing, and philosophical inquiry. The branches most likely to contribute to this purpose appear to be the Greek and Latin languages, Mathematics, Moral Philosophy, and Logic, Natural Philosophy, and Natural History. I am well aware of the difficulties that would attend such an alteration in the Statuta as this would require; but I think there are various ways by which the difficulties might be overcome, and there can be little doubt that the result would be, both to elevate the character of the Medical Profession, and to raise the value of the Edinburgh degree, which is already so highly and so deservedly esteemed."

The propriety of requiring some test of preliminary education, from those admitted to the study of Medicine in the University of Edinburgh, was ably argued in three letters inserted into the Caledonian Mercury, in October 1824 \*, under the signature of Iatros. "Besides exacting," says Iatros, (Letter 2d), "of the candidate for the Medical Degree, a competent knowledge of the learned languages, it would be well were the Senatus Academicus to require of him also some proofs of proficiency in the different branches of Natural Philosophy and Natural History, an acquaintance with those sciences being fully as necessary to the Physician as the knowledge of Arithmetic and Geometry is to the practical Astronomer. I cannot, therefore, conceive it possible, that the Senate of our University, in revising

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\* October 7th, 18th, 23d.



the Curriculum, can consent to impose the Study of Chemistry and Botany on the Medical candidate, without including also the other branches of Natural Philosophy and Natural History, equally important for him to know. Dynamics, Pneumatics, Hydrostatics, Optics, Acoustics, Meteorology, and other branches of physics, are surely as indispensable to the right investigation of the structure and functions of the animal economy, as Chemistry can be ; and Zoology, Mineralogy, Hydrology, and other divisions of the course of Natural History, are as intimately connected with Medicine and Materia Medica as is Botany ; so that no good reason can, I apprehend, be assigned for continuing to consider a knowledge of Chemistry and of Botany essentially important to the Physician, which does not equally, if not *a fortiori*, apply to the other branches of Natural Philosophy and Natural History. Chemistry and Botany are no more medical sciences than they ; though Anatomy, Physiology, Pathology, Therapeutics, Pharmacy, and Materia Medica, can neither be adequately taught, nor properly apprehended, without a knowledge of all of them."

How little the qualifications required, by the present Curriculum, of young men entering on the Study of Medicine correspond with those which were considered to be necessary, by the person who had the honour to be appointed by the Town Council in March 1685, the first Professor of Medicine in the University of Edinburgh, and who had a principal share in founding the Royal Col-

lege of Physicians, will appear from a comparison of it with the document referred to in the following note.

“ LEITH, *3d January* 1826.

“ MY DEAR SIR,

“ When the Senatus of our Alma Mater were engaged in reforming the Curriculum of Medical Studies, you and I, in common, I believe, with every one really feeling for the honour and interests of our profession, were anxious chiefly that our University should adopt some plan for securing some portion at least of literary and scientific knowledge to the Candidates for Medical Degrees. We were disappointed; and it is now but too true, that any young man who can afford to run through the Medical Curriculum (however unskilled in letters, and ignorant of philosophy he may be), is entitled to the Doctor's Cap. It was not always thus: our Profession was once entitled to the name of Learned;—and its Doctors displayed a laudable jealousy of the intrusion of the ignorant and illiterate.

“ I have just stumbled upon a very curious Advertisement, in the Edinburgh Gazette for 1706, by Sir Robert Sibbald, in which he announces a Course of Lectures on Natural History and Medicine; and in which also he takes occasion to warn the young men (the Surgeons' and Apothecaries' Apprentices, of course), that he will inscribe no Student in his Album, who cannot produce Certificates from their respective Teachers of a competent knowledge

of Greek and Latin, of the different branches of Philosophy (*omnem Philosophiam*) and of the Elements of Mathematics. Thus, in the beginning of the last century, One hundred and twenty years ago, a Professor of Medicine in Edinburgh would not even allow an ignorant or illiterate Student to enter his Class-Room. He demanded of him a previous acquaintance with the Latin and Greek languages,—with the Mathematics, and the different branches of Philosophy ;—he required, in short, that precursory knowledge of letters and of science of his pupils, which our Senatus does not now think it necessary to demand or require of the Candidate for the Doctor's Degree. His Advertisement is a curiosity, and as you may never have seen it, I transcribe it for your edification.

“ Quod Patriæ charissimæ, et in ea Philiatris, felix faustumque sit.

“ Robertus Sibbaldus, M.D. eques auratus, Deo auspice Historiam Naturalem, et Artem Medicam quam Dei gratia per annos quadraginta tres feliciter exercuit, docere in privatis Collegiis incipiet; mensibus vernalibus hujus anni 1706.

“ Monendos autem censet juvenes harum rerum curiosos, se non alios in Album suum conscripturum quam qui callent Linguas Latinam et Græcam, omnem Philosophiam, et Matheseos fundamenta, quod præceptorum chyrographis testatum vult.”

“ Sir Robert Sibbald was a fool, that is clear. He would have sold more tickets had he been less scrupulous. All the world, however, knows, that Sir Robert was a learned and distinguished physician and naturalist of his day.

“ Yours always,

“ GEORGE KELLIE.”

“ To Dr THOMSON.”

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OF the various writings in which the preparatory education of medical men has been discussed and recommended since the publication of the *Methodus Studii Medici* of the illustrious Boerhaave, I shall content myself with referring you to four only. The first is an “ Introductory Lecture on Medical Education, delivered at the commencement of the Annual Course of Lectures on Botany and the Materia Medica in 1801, by Dr Hosack, Professor in Columbia College, New York.”

“ I presume,” says Dr Hosack, “ the greater part of you have entered upon the Study of Physic, prepared with the knowledge of the usual preliminary branches of Classical Education ; that you are acquainted with those languages which are employed as the common vehicles of learning at the present time,—the Greek, the Latin, French and German languages ; that you are acquainted with Belles Lettres, Geography, the Elements of Mathematics, and Natural

Philosophy, together with an Outline of the Faculties of the Mind, and of the history of Human Society. But to those of you who have not yet had opportunities of a regular course of Collegiate Education, and, from your time of life, are still desirous of entering immediately upon Medical Study, I must recommend so to divide your time, that you may appropriate a portion of it to the several subjects I have enumerated, under the direction either of Private Teachers, or of the Professors of the College, as far as your circumstances and several situations will admit. Curiosity, as well as duty, will lead you to subjects of this nature, by which you may not only become better acquainted with your profession, by which you may not only learn the numerous improvements Medicine has received, and is daily receiving, in different parts of the world, but by which you will also add to the natural strength of your understandings, and thus furnish your minds with resources to meet the numerous difficulties you are to expect in the practice of Physic ; and be assured, that, in the prosecution of those subjects, whether you are engaged in the Study of Language, the Demonstrations of Geometry, or in examining the Principles of Philosophy, either of mind or matter, you cannot spend an useless hour. The mind, capable of observation and improvement, will find, in these preparatory branches of learning, not only subjects of gratification, but of real use."

This Lecture of Dr Hosack's, it deserves to be remarked,



was addressed to Students collected from all parts of a country, in which the opportunities of acquiring Elementary Education cannot be supposed to be at all equal to those which these kingdoms afford; and yet the attainments which the Professor expects of the American Students are greatly superior to those which the generality of young men entering on the Study of Medicine in this country are known to possess.

The second is a letter from the late Dr Beddoes to the late Sir Joseph Banks, "On the Causes and Removal of the Prevailing Discontents, Imperfections and Abuses in Medicine\*." This letter is the more deserving of your attention, that it was intended to point out some of the defects in the system of Medical Education pursued in the University of Edinburgh. The liberal, enlarged and practical view which Dr Beddoes has taken of the subject of Medical Education in this letter, renders the perusal of it as instructive, as the peculiarities, and, perhaps, even the prejudices of his well stored and powerful mind have made it amusing.

The third writing is a Discourse pronounced at the opening of the Faculty of Medicine at Montpellier in November 1815, by M. Prunelle, at that time Professor of Legal Medicine and of the History of Medicine in that

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\* 8vo, London, 1808; R. Phillips.



University \*. This discourse exhibits a luminous and comprehensive view of what ought to constitute the preliminary, as well as the professional, education of young men intended for the practice of Medicine. It is impossible to read a discourse so admirably calculated to direct the studies of those to whom it was addressed, and to inspire them with zeal in the acquisition of knowledge, without wishing that the practice of opening, in a similar manner, the academic session of the different Faculties, were adopted in the Universities of this country.

The last publication to which I shall refer, is a Letter by Dr Anthony Todd Thomson, entitled, “ Thoughts on Medical Education, and a plan for its improvement, addressed to the Council of the University of London.” The object of this letter is to point out to the notice of the Directors of that Institution, the different branches of which a proper medical education, preparatory and professional, should consist; and, particularly, to recommend that the young men who are to be admitted as Students of Medicine, shall be previously examined regarding their attainments in classical literature, and in the elementary parts of Mathematics.

There seems, at present, every reason to believe that the

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\* Des Etudes du Médecin, de leurs connexions, et de leur Méthodologie. 4to 1816.

different branches of Literature, Science, Philosophy and of Medicine, will be taught at no remote period in the University about to be established in London, upon the most improved plans, and by the ablest Professors. And from the great facilities for the practical study of the different branches of Medicine, which the numerous and extensive hospitals of London will afford to students at that University, its Medical School, in particular, must speedily become a most formidable rival to those of the Scottish Universities. It is obvious, therefore, that the utmost vigilance, activity and talent, will be required on the part of these Institutions, in order to enable them to support their present reputation, and to cope with the London University in usefulness and public favour.

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In referenee to the qualifications required of those who are admitted to the honors of graduation in the Foreign Universities, I have, in the Hints, alluded to the practice of those of Austria and France.

In a letter, which I had lately the pleasure of receiving from a young friend who graduated in the spring of this year, at the University of Berlin, he mentions, that “ there have been new regulations issued for the taking of degrees in the Prussian Universities. The Students are all to spend four years (eight semestres) at the University ; and,

previous to their medical examination, are to be tried before the Faculty of Philosophy on Languages, Logic, Philosophy, History, and the Natural Sciences."

In the Universities of the Netherlands no student is permitted to attend the Lectures of the Professors of Medicine, without having previously obtained the degree of Candidate in the Mathematical and Physical Sciences. In order to obtain this preliminary degree, students must, *1st*, Undergo an examination in Mathematics, Natural Philosophy, Botany and the Elements of General Chemistry; and, *2dly*, Produce proofs of having attended Lectures on Latin and Greek Literature, and on Logic \*.

The slightest comparison of the qualifications in preparatory education required of young men entering on the study of medicine in the Universities of the Continent, with those required by the medical Curricula of this country, must be sufficient to convince you of the great superiority of the continental qualifications, and of the consequent inferiority in literary and scientific attainments of a very large portion of those who receive the degree of Doctor in Medicine from the Scottish Universities. Yet there are perhaps few countries in which this preparatory edu-

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\* *Réglement sur l'Organisation de l'Enseignement Supérieur dans les Provinces Méridionales du Royaume des Pays-Bas. Arrêté par le Roi, le 25. Septembre 1816.*

cation can be better or more cheaply attained than in Scotland. I am happy to be able to quote to you, with regard to this matter, the opinion of one whose name must ever continue to reflect the greatest lustre on the country in which he was born, and on the University in which he taught. Dr Adam Smith, in a letter, dated the 20th of September 1774, written to Dr Cullen on the subject of a Memorial transmitted from Edinburgh, complaining of the manner in which the Universities of St Andrew's and Aberdeen confer Degrees in absence, observes, " In the present state of the Scotch Universities, I do most sincerely look upon them, in spite of all their faults, to be without exception the best seminaries of learning that are to be found any where in Europe. They are, perhaps, upon the whole, as unexceptionable as any public institutions of that kind, which all contain in their very nature the seeds and causes of negligence and corruption, have ever been, or are ever likely to be. That, however, they are still capable of amendment, and even of considerable amendment, I know very well ; and a VISITATION is, I believe, the only proper means of procuring them this amendment."

Besides the requisition of a preparatory education from those who are permitted to enter upon the study of Medicine at the Scottish Universities, there is another very obvious and important improvement, capable of being introduced into the plan of medical instruction, to which I feel

assured your attention will be fully directed. I allude to that method of teaching by frequent examinations, as well as by lectures, which was long so advantageously followed by Professor Jardine in the Logic Class of the University of Glasgow, and has been so ably explained by him in his "Outlines of Philosophical Education." But it is unnecessary for me to dwell upon this method of instruction, as its applicability to the teaching of medicine, and the advantages to be derived from its adoption, have been pointed out by the venerable Professor himself, in his Chapter "On the Extension of this Mode of Teaching to the higher departments of Study in Universities."

The interest which I feel in the proper education of medical men, is the only apology I can offer for the liberty I have taken in requesting your attention to the foregoing Observations, and to the annexed "Hints." In the confident hope that your present inquiries will lead to most material improvements in this education in the Scottish Universities,

I have the honour to be,

With the greatest respect,

MY LORDS AND GENTLEMEN,

Your very obedient humble servant,

JOHN THOMSON, M. D.

late Professor of Military Surgery  
in the University of Edinburgh.

